

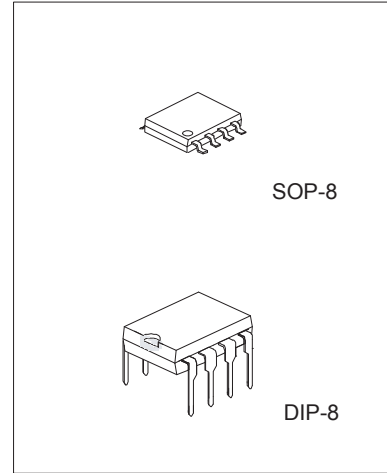
Dual Low-Noise Operational Amplifier

DESCRIPTION

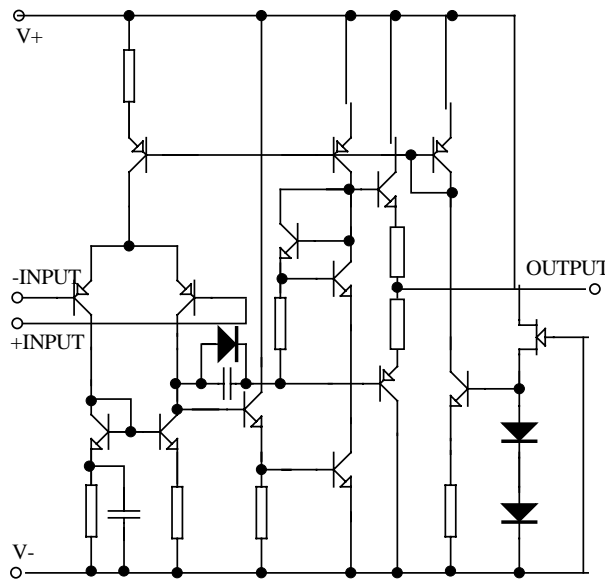
The CO5532 is a high performance monolithic dual operational amplifier. The feature very low noise, maximum-output-swing bandwidths, low distortion, and high slew rate.

FEATURES

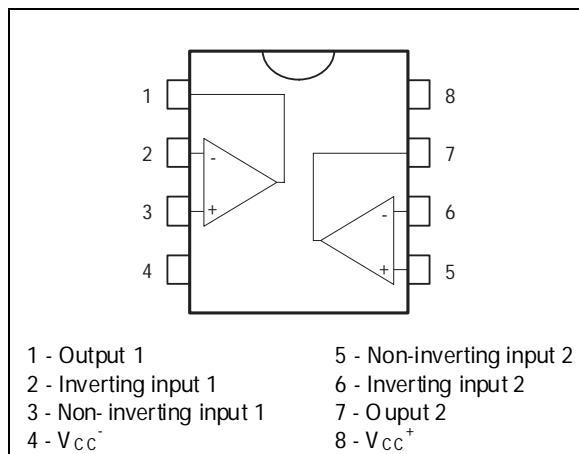
Operating Voltage	($\pm 2V \sim \pm 18V$)
Low Input Noise Voltage	($0.8\mu V_{rms}$ typ.)
Wide Gain Bandwidth Product	($15MHz$ typ.)
Low Distortion	(0.0005% typ.)
Slew Rate	($9V/\mu s$ typ.)
Common-Mode Rejection Ratio	110db Typ
Package Outline	DIP8, SOP8
Bipolar Technology	



BLOCK DIAGRAM



PIN CONFIGURATION

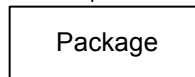


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Dual Low-Noise Operational Amplifier

ORDERING INFORMATION

CO5532N



Blank SO-8
 N=PDIP8
 A=SO-8 & taping

MAXIMUM RATINGS

(Ta=25 °C)

PARAMETER	SYMBOL	LIMITS	UNIT
Supply Voltage	V _{CC}	±18	V
Differential input voltage	V _{I(DIFF)}	±30	V
Output Current	I _O	±50	mA
Input Voltage	V _I	±15	V
Power dissipation P-DIP 8 SOP 8	P _D	800 300	mW
Operating temperature	TOPR	-40~+85	°C
Storage temperature	TSTG	-40~+125	°C

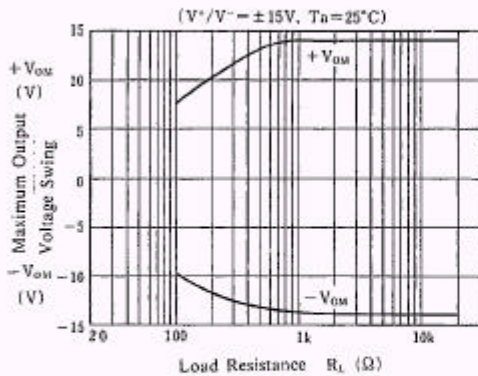
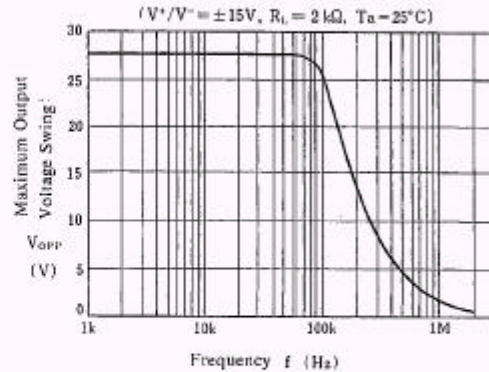
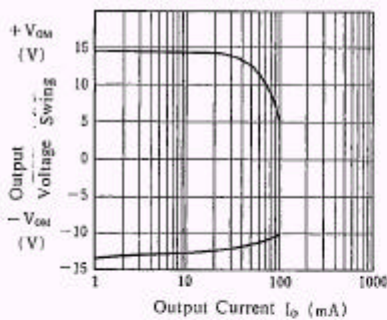
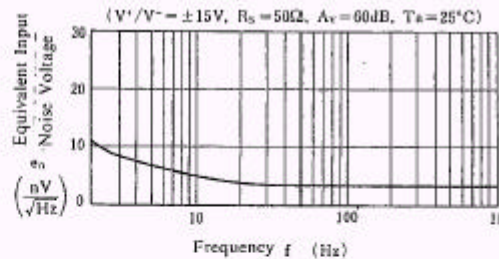
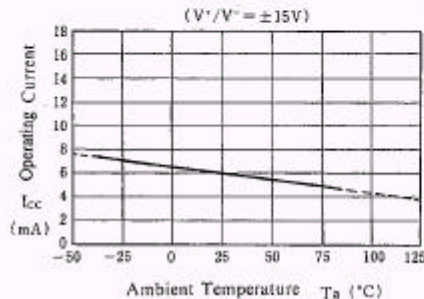
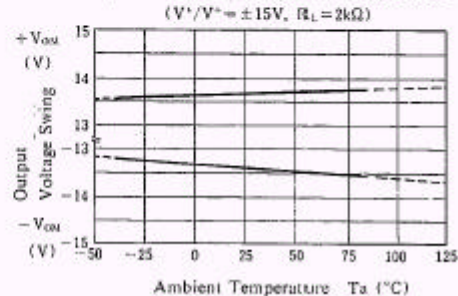
ELECTRICAL CHARACTERISTICS

(Ta=25 °C, V₊/V₋=±15V)

PARAMETER	SYMBOL	TEST CONDUCTION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V _{IO}	R _S 10KΩ	-	0.5	3	mV
Input Offset Current	I _{IO}		-	5	200	nA
Input Bias Current	I _B		-	100	500	nA
Large Signal Voltage Gain	A _v	R _L 2KΩ, V _o =±10V	90	110	-	dB
Output Voltage Swing	V _{OM}	R _L =2KΩ	±12	±13.5	-	V
Input Common Mode Voltage Range	V _{ICM}		±12	±13.5	-	V
Common Mode Rejection Ratio	CMR	R _S 10KΩ	80	110	-	dB
Supply Voltage Rejection Ratio	SVR	R _S 10KΩ	80	110	-	dB
Operating Current	I _{CC}		-	6	9	mA
Slew Rate	SR	R _L 2KΩ	-	9	-	V/μs
Gain Bandwidth Product	GB	f=10KHZ	-	15	-	MHz
Total Harmonic Distortion	THD	A _v =20dB, V _o =5V, R _L =2KΩ, f=1KHZ	-	0.0005	-	%
Input Noise Voltage	V _{NI}	RIAA R _s =2.2KΩ, 30KHZLFPF	-	0.8	-	μV _{rms}

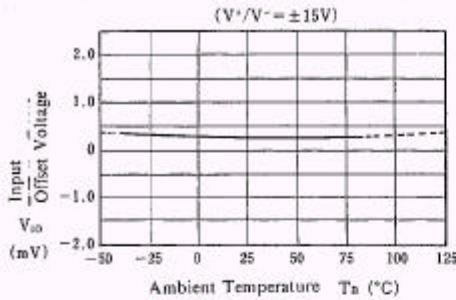
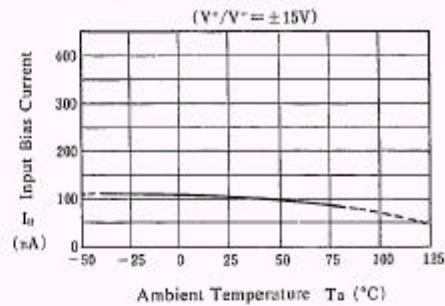
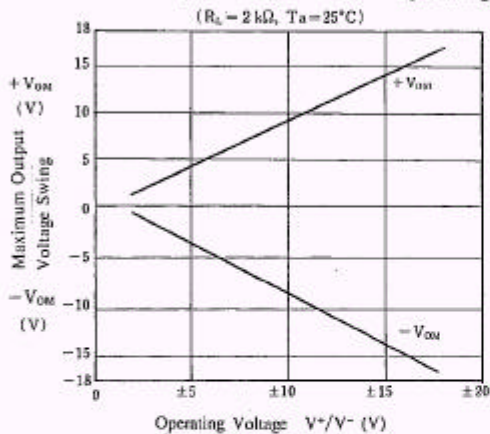
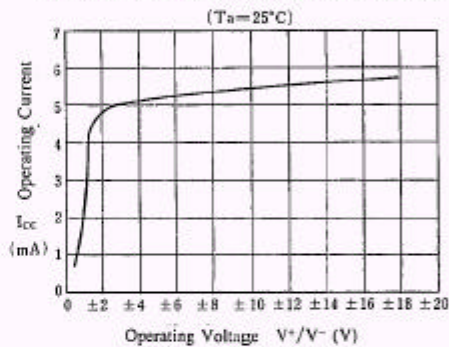
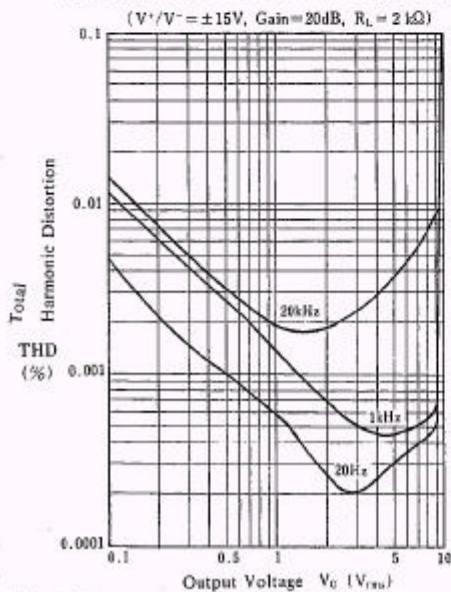
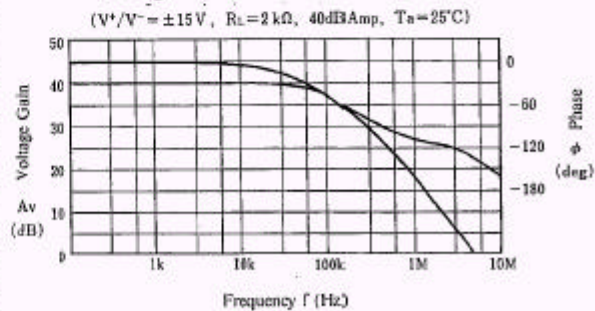
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Dual Low-Noise Operational Amplifier

■ TYPICAL CHARACTERISTICS
Maximum Output Voltage Swing vs. Load Resistance

Maximum Output Voltage Swing vs. Frequency

Output Voltage Swing vs. Output Current

Equivalent Input Noise Voltage vs. Frequency

Operating Current vs. Temperature

Output Voltage Swing vs. Temperature


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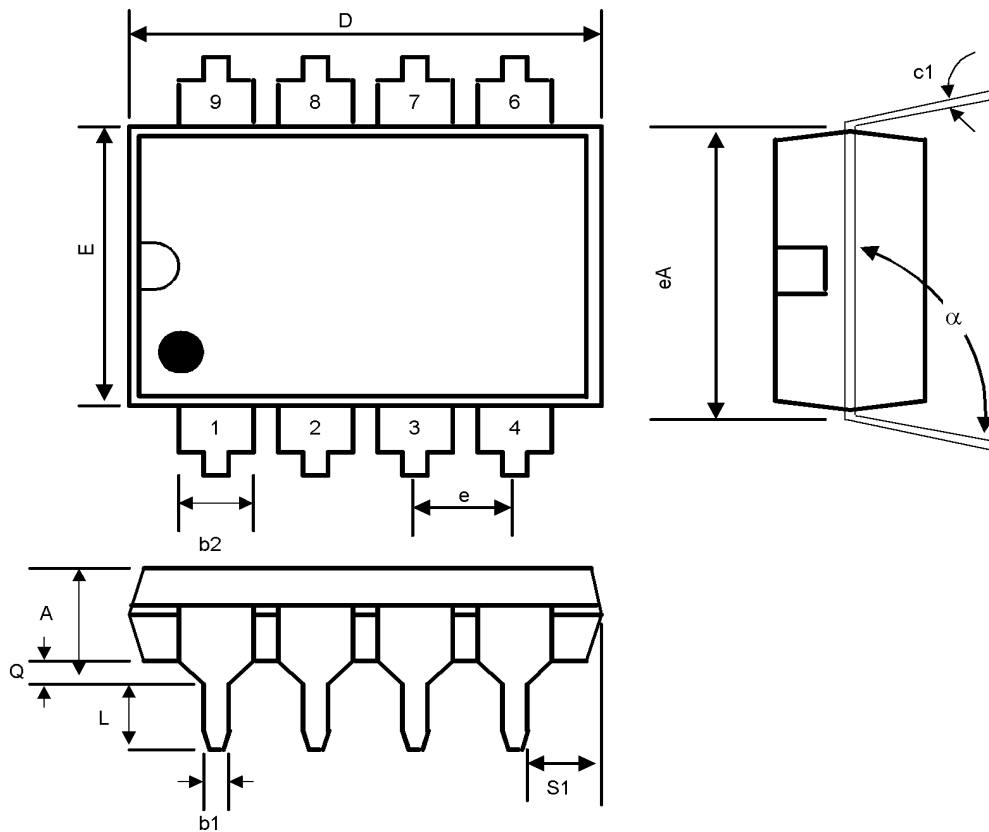
Dual Low-Noise Operational Amplifier

TYPICAL CHARACTERISTICS
Input Offset Voltage vs. Temperature

Input Bias Current vs. Temperature

Maximum Output Voltage Swing vs. Operating Voltage

Operating Current vs. Operating Voltage

Total Harmonic Distortion vs. Output Voltage

Voltage Gain, Phase vs. Frequency


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Dual Low-Noise Operational Amplifier

Package Outlines : DIP-8

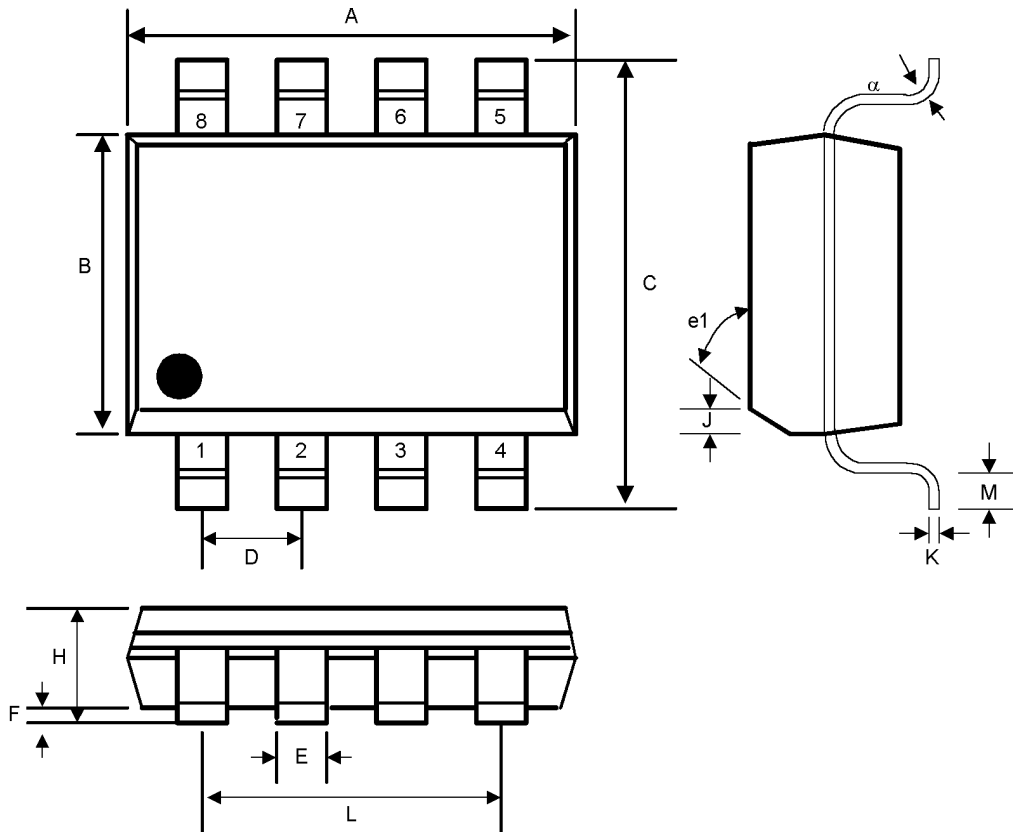


SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	-	0.200	-	5.08	-
b1	0.014	0.023	0.36	0.58	-
b2	0.045	0.065	1.14	1.65	-
c1	0.008	0.015	0.20	0.38	-
D	0.355	0.400	9.02	10.16	-
E	0.220	0.310	5.59	7.87	-
e	0.100 BSC		2.54 BSC		-
eA	0.300 BSC		7.62 BSC		-
L	0.125	0.200	3.18	5.08	-
Q	0.015	0.060	0.38	1.52	-
s1	0.005	-	0.13	-	-
α	90°	105°	90°	105°	-

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Dual Low-Noise Operational Amplifier

Small Outline SOP-8



SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	0.188	0.197	4.80	5.00	-
B	0.149	0.158	3.80	4.00	-
C	0.228	0.244	5.80	6.20	-
D	0.050 BSC		1.27 BSC		-
E	0.013	0.020	0.33	0.51	-
F	0.004	0.010	0.10	0.25	-
H	0.053	0.069	1.35	1.75	-
J	0.011	0.019	0.28	0.48	-
K	0.007	0.010	0.19	0.25	-
M	0.016	0.050	0.40	1.27	-
L	0.150 REF		3.81 REF		-
e1	45°		45°		-
α	0°	8°	0°	8°	-

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